

LC STN Files: CA, CAPLUS

DT.CA Caplus document type: Patent

RLD.P Roles for non-specific derivatives from patents: USES (Uses)

Component	Ratio	Component Registry Number
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F	2	14762-94-8
Mn	1	7439-96-5
Li	1	7439-93-2

1 REFERENCES IN FILE CA (1907 TO DATE)  
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

#### REFERENCE 1

AN 142:97386 CA  
TI Manganese based anode active material production for lithium ion battery  
IN Kwon, Ho Jin  
PA Samsung SDI Co., Ltd., S. Korea  
SO Repub. Korean Kongkae Taeho Kongbo, No pp. given  
CODEN: KRXXA7  
DT Patent  
LA Korean  
IC ICM H01M010-36  
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
Section cross-reference(s): 49

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	KR 2001063879	A	20010709	KR 1999-61983	19991224
PRAI	KR 1999-61983		19991224		

AB A manganese based anode active material is provided for efficient preparation of the Mn-based material having improved life time at high temperature, thermal stability and electrochem. properties by utilizing specific materials capable of reverse intercalation and deintercalation of lithium ions. The Mn based anode active material having spherical particles of 20-50- $\mu$ m diameter agglomerated with microfine particles of  $\geq 1$   $\mu$ m-diameter is selected from LixMO<sub>2</sub>, LixMnS<sub>2</sub>, LixMF<sub>2</sub>, LixMnO<sub>2</sub>-zFz, LixMnO<sub>2</sub>-zSz, LixMnO<sub>2</sub>-zPz, LixMn<sub>1</sub>-yMyO<sub>2</sub>, LixMn<sub>1</sub>-yMyO<sub>2</sub>-zSz, LixMn<sub>2</sub>O<sub>4</sub>, LixMn<sub>2</sub>S<sub>4</sub> and LixMn<sub>2</sub>F<sub>4</sub> (where x=0.9-1.1; yr=0-0.5; z=0-1.95; M is Mg, Al, Cr, Fe, Mn, Sr, La, Ce and their combinations). The active material is prepared by adding organic solvent to lithium and manganese salts to form a mixture; agitating and vaporizing the solvent to form a precursor; and thermally processing the precursor.

ST manganese anode prodn lithium ion battery

IT Secondary batteries

(lithium, cathodes; manganese anode active material production for lithium ion battery)

IT Dissolution

Heat treatment

(manganese anode active material production for lithium ion battery)

IT Salts, uses

RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(manganese anode active material production for lithium ion battery)

IT Fluorides, uses

Sulfides, uses

RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)

(manganese anode active material production for lithium ion battery)

IT Oxides (inorganic), uses

RL: NUU (Other use, unclassified); TEM (Technical or engineered material

use); USES (Uses)  
 (oxide phosphides; manganese anode active material production for lithium ion battery)

IT Oxides (inorganic), uses  
 Sulfides, uses  
 RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)  
 (oxide sulfides; manganese anode active material production for lithium ion battery)

IT Fluorides, uses  
 RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)  
 (oxyfluorides; manganese anode active material production for lithium ion battery)

IT 7439-93-2D, Lithium, salts 7439-96-5D, Manganese, salts  
 RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)  
 (manganese anode active material production for lithium ion battery)

IT 12003-67-7D, Aluminum lithium oxide ( $\text{AlLiO}_2$ ), doped, nonstoichiometric  
 12017-96-8D, Chromium lithium oxide ( $\text{CrLiO}_2$ ), doped, nonstoichiometric  
 12022-46-7D, Iron lithium oxide ( $\text{FeLiO}_2$ ), doped, nonstoichiometric  
 12057-17-9D, Lithium manganese oxide ( $\text{LiMn}_2\text{O}_4$ ), nonstoichiometric  
 12142-59-5D, Lanthanum lithium oxide ( $\text{LaLiO}_2$ ), doped, nonstoichiometric  
 12162-79-7D, Lithium manganese oxide ( $\text{LiMnO}_2$ ), doped, nonstoichiometric  
 39327-44-1D, Lithium fluoride ( $\text{LiF}_2$ ), doped, nonstoichiometric  
 57349-02-7D, Cerium lithium oxide ( $\text{CeLiO}_2$ ), doped, nonstoichiometric  
 147551-83-5D, Lanthanum lithium manganese oxide ( $(\text{La,Mn})\text{LiO}_2$ ), doped, nonstoichiometric 195144-63-9D, Lithium oxide ( $\text{LiO}_2$ ), doped, nonstoichiometric 367267-66-1D, Iron lithium manganese oxide ( $\text{Fe(Li,Mn)O}_2$ ), doped, nonstoichiometric 425622-71-5D, Aluminum lithium manganese oxide ( $(\text{Al,Mn})\text{LiO}_2$ ), doped, nonstoichiometric 435268-41-0D, Chromium lithium manganese oxide ( $(\text{Cr,Mn})\text{LiO}_2$ ), doped, nonstoichiometric 815609-07-5D, Iron lithium fluoride ( $\text{FeLiF}_2$ ), doped, nonstoichiometric 815609-08-6D, Lithium strontium oxide ( $\text{LiSrO}_2$ ), doped, nonstoichiometric 815609-09-7D, Lithium manganese oxide sulfide ( $\text{LiMn(O,S)}_2$ ), nonstoichiometric 815609-10-0D, Lithium manganese fluoride oxide ( $\text{LiMn(F,O)}_2$ ), nonstoichiometric 815609-11-1D, Lithium manganese oxide phosphide ( $\text{LiMn(O,P)}_2$ ), nonstoichiometric 815609-13-3D, Lithium manganese sulfide ( $\text{LiMnS}_2$ ), nonstoichiometric 815609-14-4D, Lithium manganese strontium oxide ( $\text{Li(Mn,Sr)O}_2$ ), doped, nonstoichiometric 815609-15-5D, Cerium lithium manganese oxide ( $(\text{Ce,Mn})\text{LiO}_2$ ), doped, nonstoichiometric 815609-16-6D, Lithium magnesium manganese oxide ( $\text{Li(Mg,Mn)O}_2$ ), doped, nonstoichiometric 815609-17-7D, Lithium magnesium fluoride ( $\text{LiMgF}_2$ ), doped, nonstoichiometric 815609-18-8D, doped, nonstoichiometric 815609-19-9D, Aluminum lithium manganese oxide sulfide ( $(\text{Al,Mn})\text{Li(O,S)}_2$ ), doped, nonstoichiometric 815609-20-2D, Chromium lithium manganese oxide sulfide ( $(\text{Cr,Mn})\text{Li(O,S)}_2$ ), doped, nonstoichiometric 815609-21-3D, Iron lithium manganese oxide sulfide ( $(\text{Fe,Mn})\text{Li(O,S)}_2$ ), doped, nonstoichiometric 815609-22-4D, doped, nonstoichiometric 815609-23-5D, doped, nonstoichiometric 815609-24-6D, Cerium lithium manganese oxide sulfide ( $(\text{Ce,Mn})\text{Li(O,S)}_2$ ), doped, nonstoichiometric 815609-25-7D, Aluminum lithium fluoride ( $\text{AlLiF}_2$ ), doped, nonstoichiometric 815609-26-8D, Lithium manganese fluoride ( $\text{LiMn}_2\text{F}_4$ ), nonstoichiometric 815609-28-0D, Lithium manganese sulfide ( $\text{LiMn}_2\text{S}_4$ ), nonstoichiometric 815609-30-4D, Chromium lithium fluoride ( $\text{CrLiF}_2$ ), doped, nonstoichiometric 815609-31-5D, Lithium manganese fluoride ( $\text{LiMnF}_2$ ), doped, nonstoichiometric 815609-32-6D, Lithium strontium fluoride ( $\text{LiSrF}_2$ ), doped, nonstoichiometric 815609-34-8D, Lanthanum lithium fluoride ( $\text{LaLiF}_2$ ), doped, nonstoichiometric 815609-36-0D, Cerium lithium fluoride ( $\text{CeLiF}_2$ ), doped, nonstoichiometric  
 RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)  
 (manganese anode active material production for lithium ion battery)